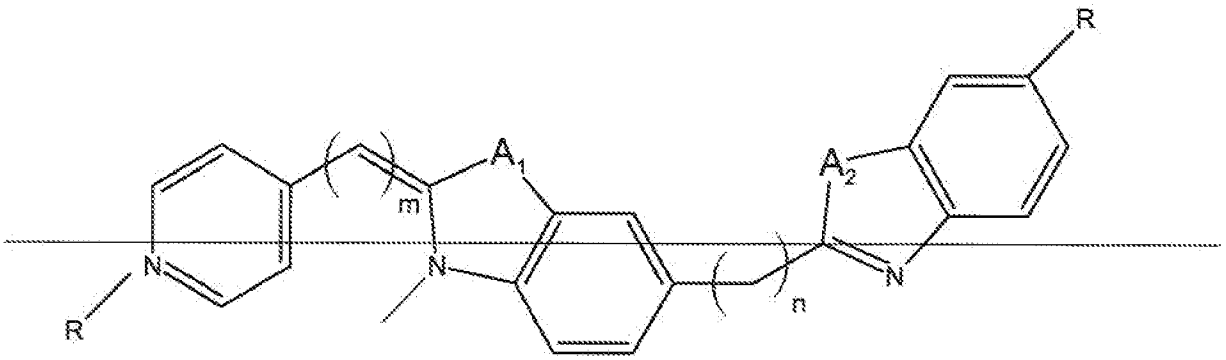
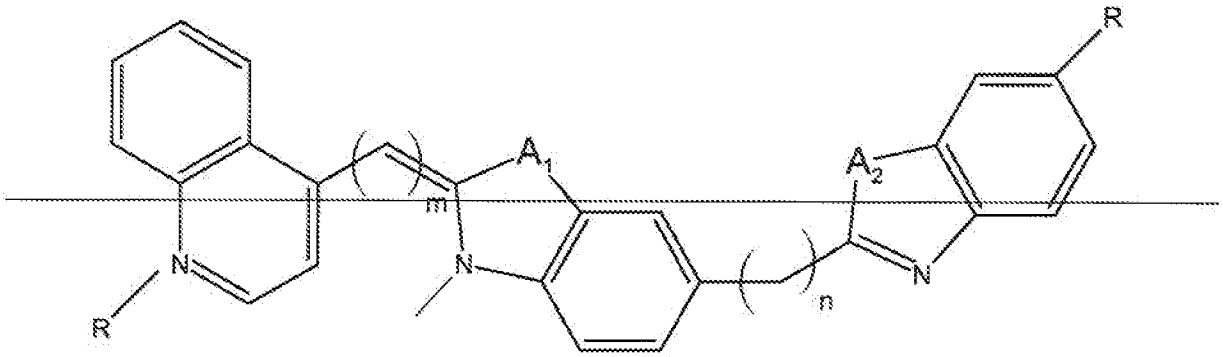
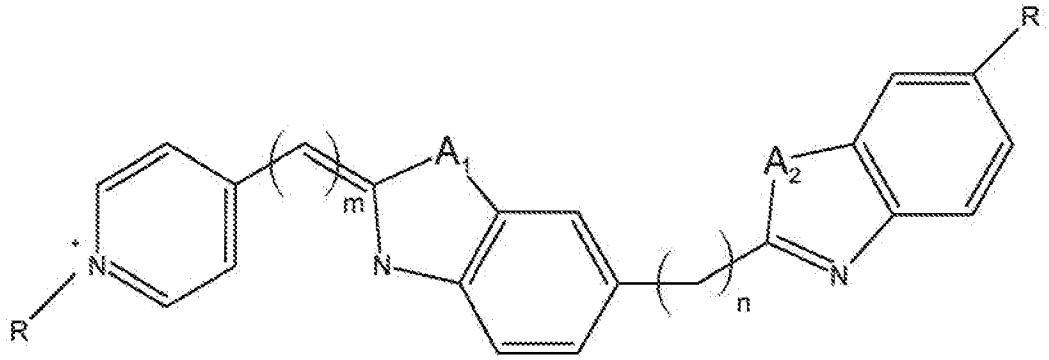
AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A cyanine dye having the formula:

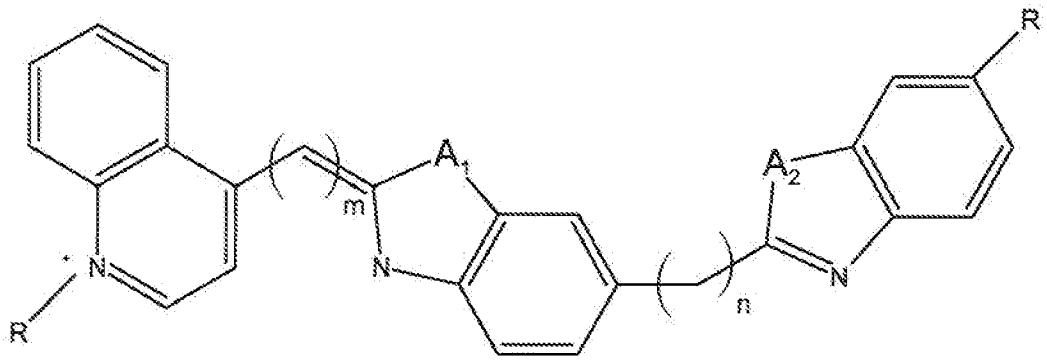


~~or~~





or



wherein A_1 and A_2 are each independently O, S or N, and R is H or a hydrocarbon, optionally containing a heteroatom, and m is an integer from 0 to 5, and n is an integer from 0 to 5.

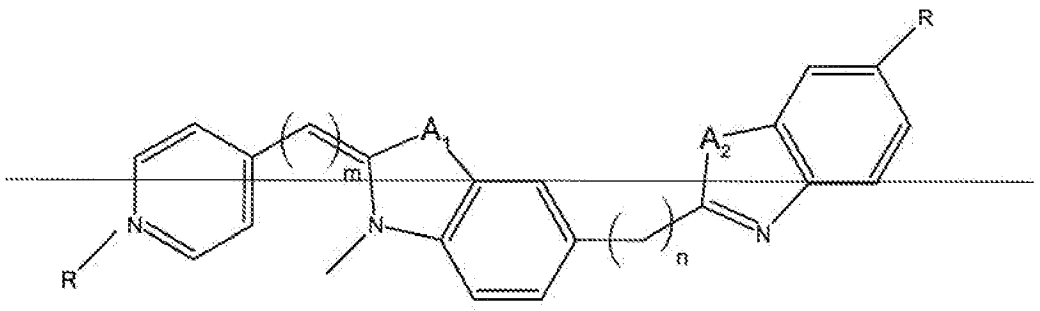
2. (Original) The cyanine dye of claim 1, wherein R is methyl or ethyl, and m is 1 and n is 0.

3. (Original) The cyanine dye of claim 1, wherein R is methyl or ethyl, m is 1 and n is 0, and A_1 and A_2 are S.

4. (Original) The cyanine dye of claim 1, wherein R is methyl or ethyl, m is 1 and n is 0, and A_1 and A_2 are O.

5. (Original)The cyanine dye of claim 1, wherein R is methyl or ethyl, m is 1 and n is 0, A_1 is S and A_2 is O.

6. (Currently Amended) A hybridization probe comprising a sequence-recognizing nucleic acid portion and a reporter portion, wherein the reporter portion comprises a cyanine dye having the formula:



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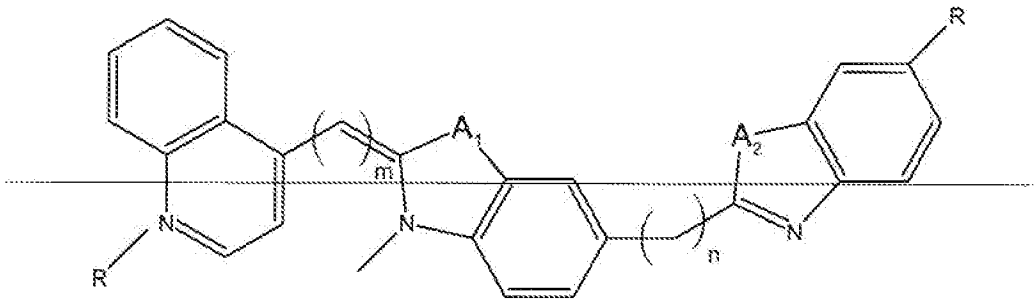
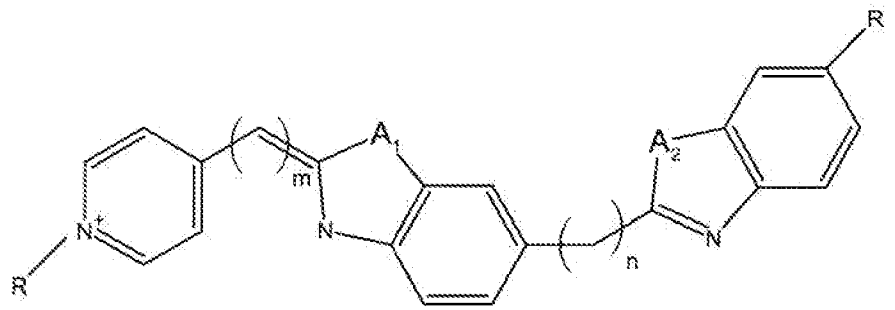
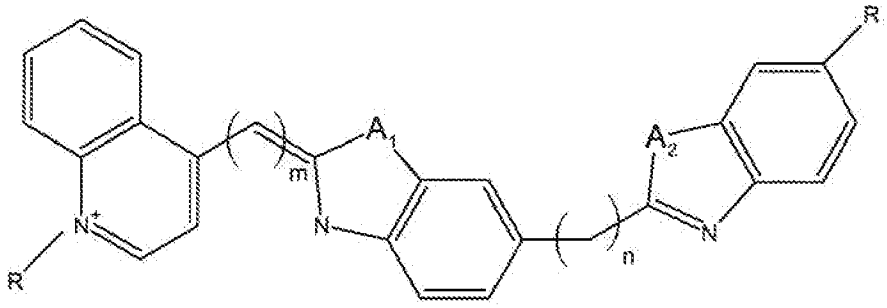




or



wherein A_1 and A_2 are each independently O, S or N, and R is H or a hydrocarbon, optionally containing a heteroatom, and m is an integer from 0 to 5, and n is an integer from 0 to 5.

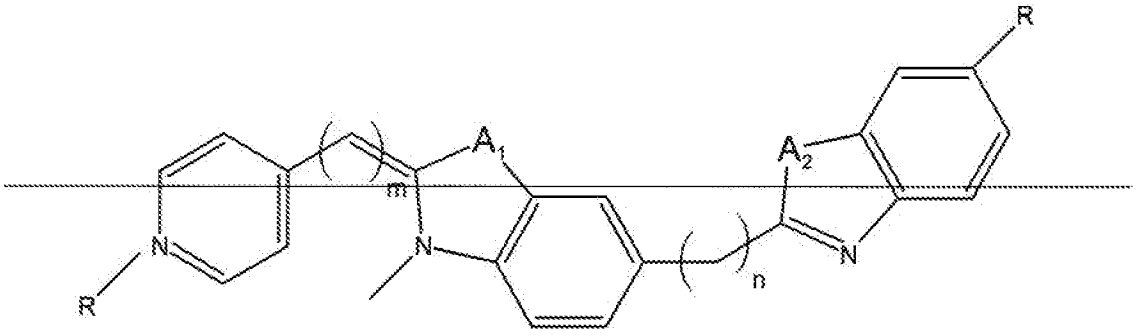
7. (Original) The probe of claim 6, wherein R is methyl or ethyl, and m is 1 and n is 0.

8. (Original) The probe of claim 6, wherein R is methyl or ethyl, m is 1 and n is 0, and A_1 and A_2 are S.

9. (Original) The probe of claim 6, wherein R is methyl or ethyl, m is 1 and n is 0, and A_1 and A_2 are O.

10. (Original) The probe of claim 6, wherein R is methyl or ethyl, m is 1 and n is 0, A_1 is S and A_2 is O.

11. (Currently Amended) A method for detecting the presence of double-stranded DNA in a sample comprising the steps of: introducing into the sample a cyanine dye having the formula:



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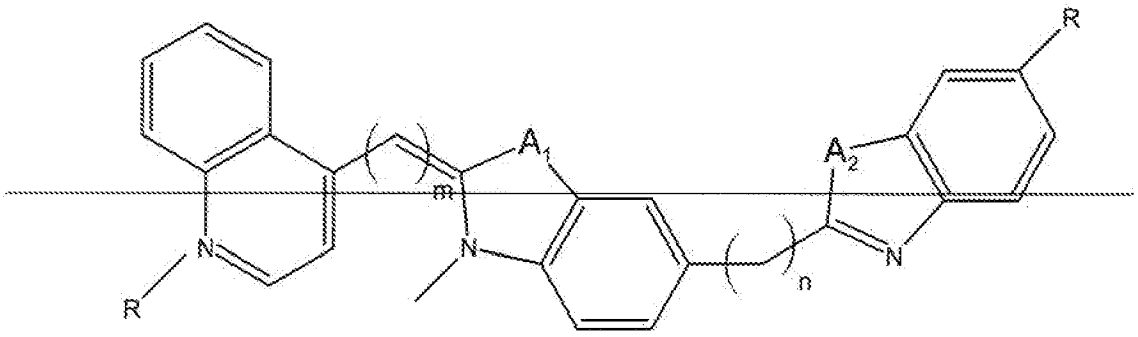
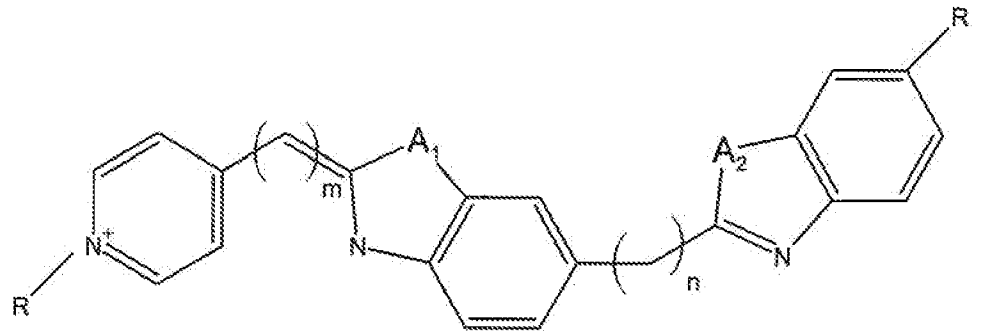
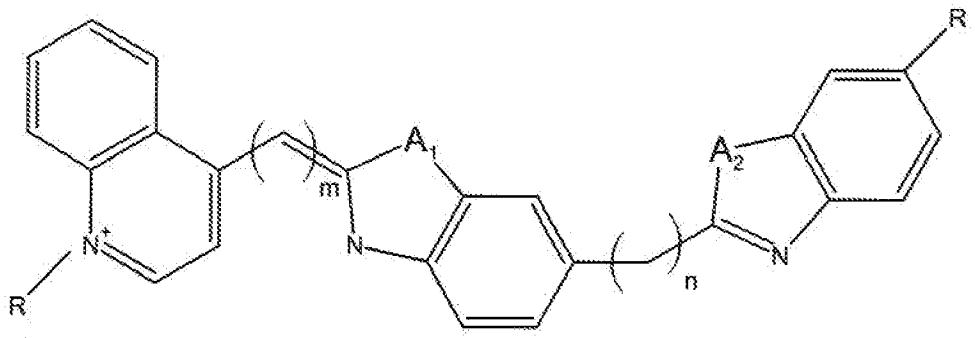




or



wherein A_1 and A_2 are each independently O, S or N, and R is H or a hydrocarbon, optionally containing a heteroatom, and m is an integer from 0 to 5, and n is an integer from 0 to 5; and detecting fluorescence from the cyanine dye, wherein the fluorescence intensity from the cyanine dye is increased in the presence of double-stranded DNA as a result of binding of the cyanine dye in the minor groove of the double-stranded DNA.

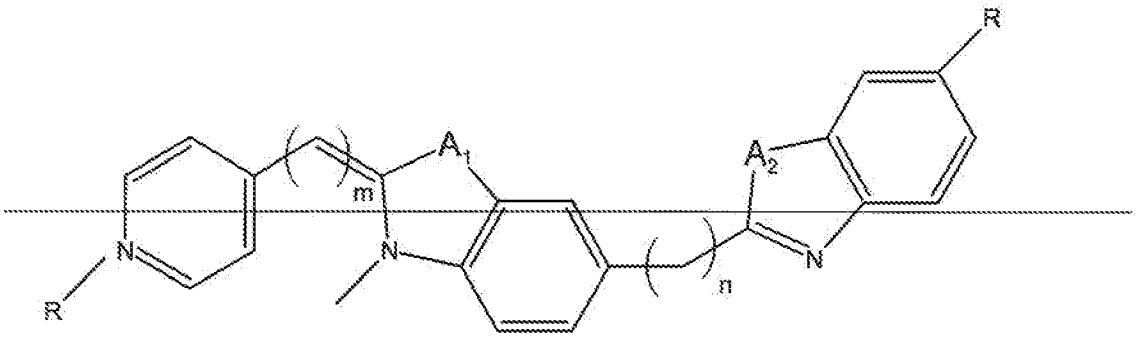
12. (Original) The method of claim 11, wherein R is methyl or ethyl, and m is 1 and n is 0.

13. (Original) The method of claim 11, wherein R is methyl or ethyl, m is 1 and n is 0, and A_1 and A_2 are S.

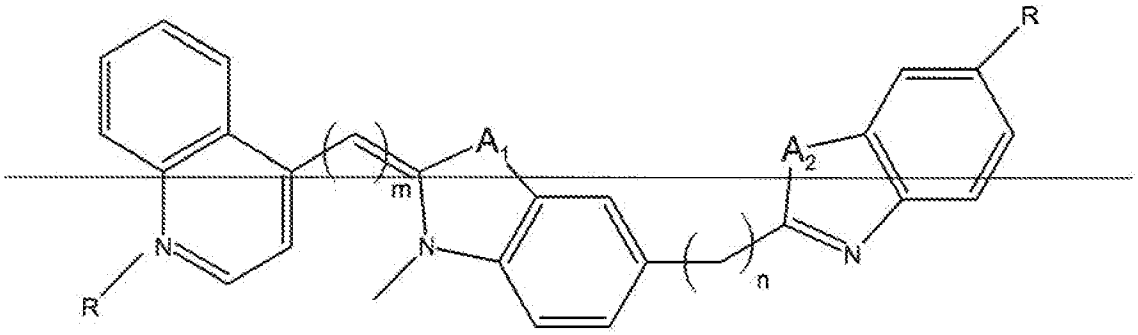
14. (Original) The method of claim 11, wherein R is methyl or ethyl, m is 1 and n is 0, and A_1 and A_2 are O.

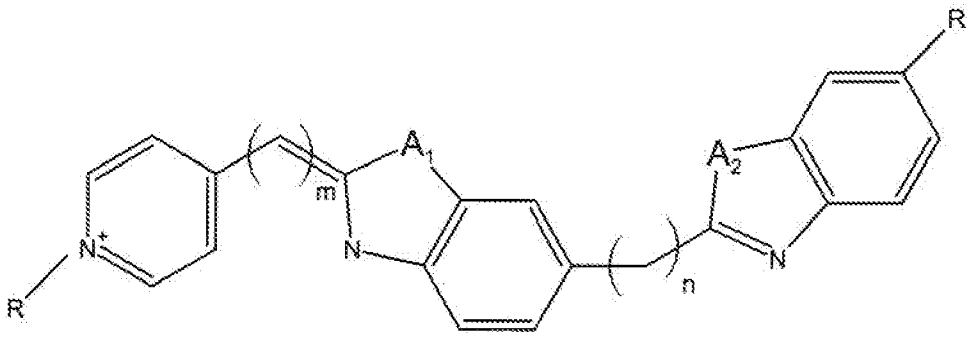
15. (Original) The method of claim 11, wherein R is methyl or ethyl, m is 1 and n is 0, A_1 is S and A_2 is O.

16. (Withdrawn-Currently Amended) A method for monitoring a real time PCR reaction by detection of the formation of double-stranded DNA, comprising the steps of performing real time PCR in the presence of a fluorescent dye that interacts with double-stranded DNA, and monitoring fluorescence from the fluorescent dye, wherein the fluorescent dye increases its fluorescent intensity when it is locked in a minor groove position in double stranded DNA, and wherein the dye comprises a cyanine dye having the formula:

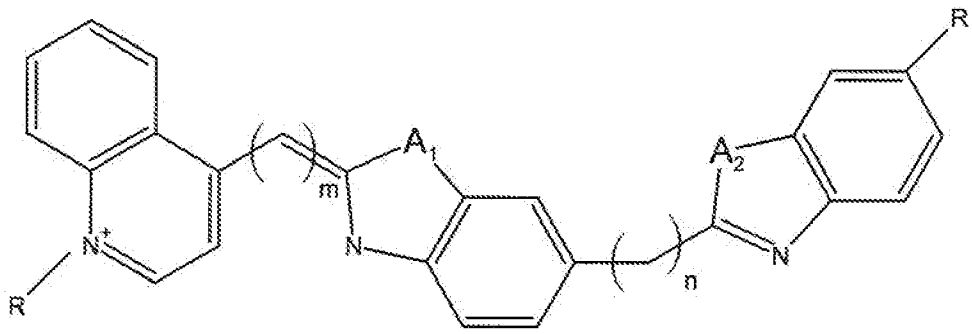


~~or~~





or



wherein A_1 and A_2 are each independently O, S or N, and R is H or a hydrocarbon, optionally containing a heteroatom, and m is an integer from 0 to 5, and n to an integer from 0 to 5.

17-20. (Cancelled)

21. (Currently Amended) The method of ~~claim 20~~ claim 1, wherein R is methyl or ethyl, and m is 1 and n is 0.

22. (Currently Amended) The method of ~~claim 20~~ claim 1, wherein R is methyl or ethyl, m is 1 and n is 0, and A_1 and A_2 are S.

23. (Currently Amended) The method of ~~claim 20~~ claim 1, wherein R is methyl or ethyl, m is 1 and n is 0, and A_1 and A_2 are O.

24. (Currently Amended) The method of ~~claim 20~~ claim 1, wherein R is methyl or ethyl, m is 1 and n is 0, A_1 is S and A_2 is O.